



SCIENCE (CHEMISTRY) CURRICULUM MAP

FURTHER STUDY

A level Chemistry;
Level 3 BTEC Science

CAREER PATHS

University, Researcher,
Forensic Scientist,
Biochemist, Chemical
Engineer, Education and
Training

SKILLS

Critical analysis, scientific
investigation, evaluation

Assessment: created using past
paper questions, including
content on groups of the
periodic table and electrolysis.

REVISION
&
EXAMS

REVISION

Chemical testing and homologous series

- Ion testing
- Homologous series and testing for alkenes
- Condensation and addition polymers
- Nanoparticles and materials
- Energy in fuels

Groups of the Periodic Table

- Trends of reactivity on the periodic table
- Displacement of halogens and reactions of alkali metals with water
- Reactivity and electron configuration

Measuring Rates of Reaction

- Indicator that chemical reactions are taking place
- Endo and exothermic reactions
- Factors that affect rates of reaction
- Rates of reactions including collisions of particles
- Calculating energy release

Formative assessment
throughout topics: 15 marks
with targeted feedback tasks

Assessment: mock
exams covering all
content to-date

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content to-date

Metal extraction

- Fuels and the difference between compounds and mixtures
- Hydrocarbons Alkanes and alkenes
- Fractional distillation
- Crude oil into fractions
- Fuel cells
- Balanced equations

Dynamic Equilibrium

- Chemical reactions as a symbol equation
- Reversible and irreversible reactions.
- Understanding equilibrium
- Effects of pressure, temperature and concentration on a chemical reaction.
- Titration to make fertilisers

Acids and titration

- Transition metals, alloys, electroplating, corrosion and oxidation
- Calculating concentration, titrations, and titration calculations
- atom economy, percentage yield, molar gas volume +fertiliser
- Equilibria and fuel cells

Fuels

- Origins of metals and extraction
- Reactivity and extraction methods
- Metals, alloys and their properties
- Corrosion
- Oxidation and reduction
- Transition metals

YEAR
11

45 mark synoptic
assessment
content
completed so far

End of year mock
paper, chemistry
paper 1

Formative assessment
throughout topics: 15
marks with targeted
feedback tasks

Separating mixtures and compounds

- Filtrations
- Distillation and fractional distillation
- Chromatography
- Designing separation techniques
- Changes in particles during separation
- Comparing different substances using Rf values and boiling points
- Electrolysis as a separating technique

Neutralisation

- Uses of acids and alkalis
- Reactions involving acids
- Strong and weak acids
- Solubility rules for common compounds
- Write a scientific method
- Concentration calculations

Bonding

- Atomic structure and electron configuration
- Atoms and Ions
- Dot-cross diagrams to demonstrate bonding
- Atoms and bonding
- Delocalised electrons and electricity
- Large lattice structures

YEAR
10

Pre
Y10

1 Chemistry test during the year
and a chemistry test at the end of
the year. Each 40 marks in total

Assessment: Formative assessment
10-15 exam questions during topics
and test papers at the end of topics

SCIENCE SKILL

Scientific knowledge and
conceptual understanding

SCIENCE SKILL

The nature, processes
and methods of science

SCIENCE SKILL

Analysis, evaluation and
measurement

SCIENCE SKILL

Experimental skills and
investigations